

Fig.1: Voice Quality Measurement According to Prior Art

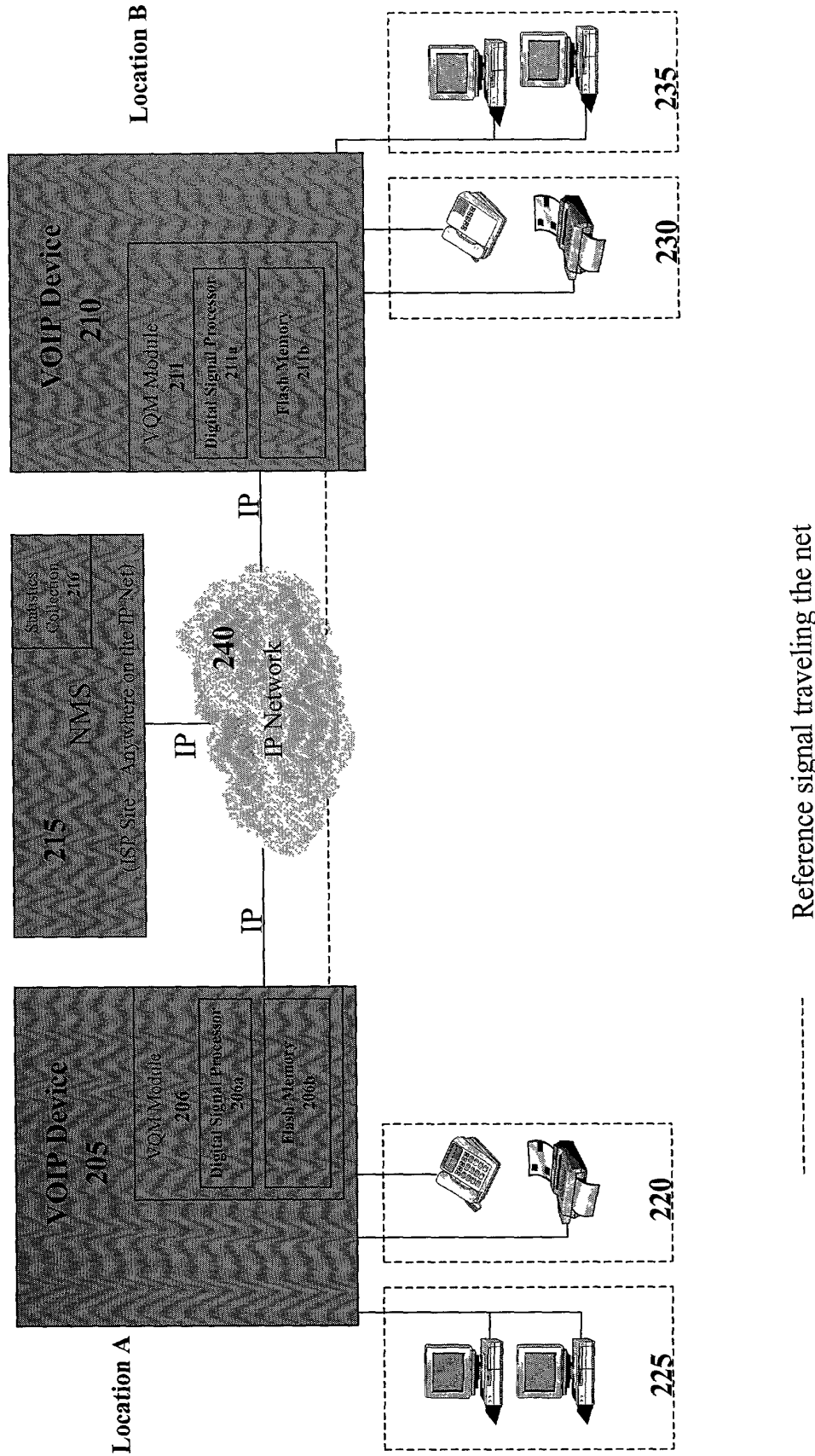
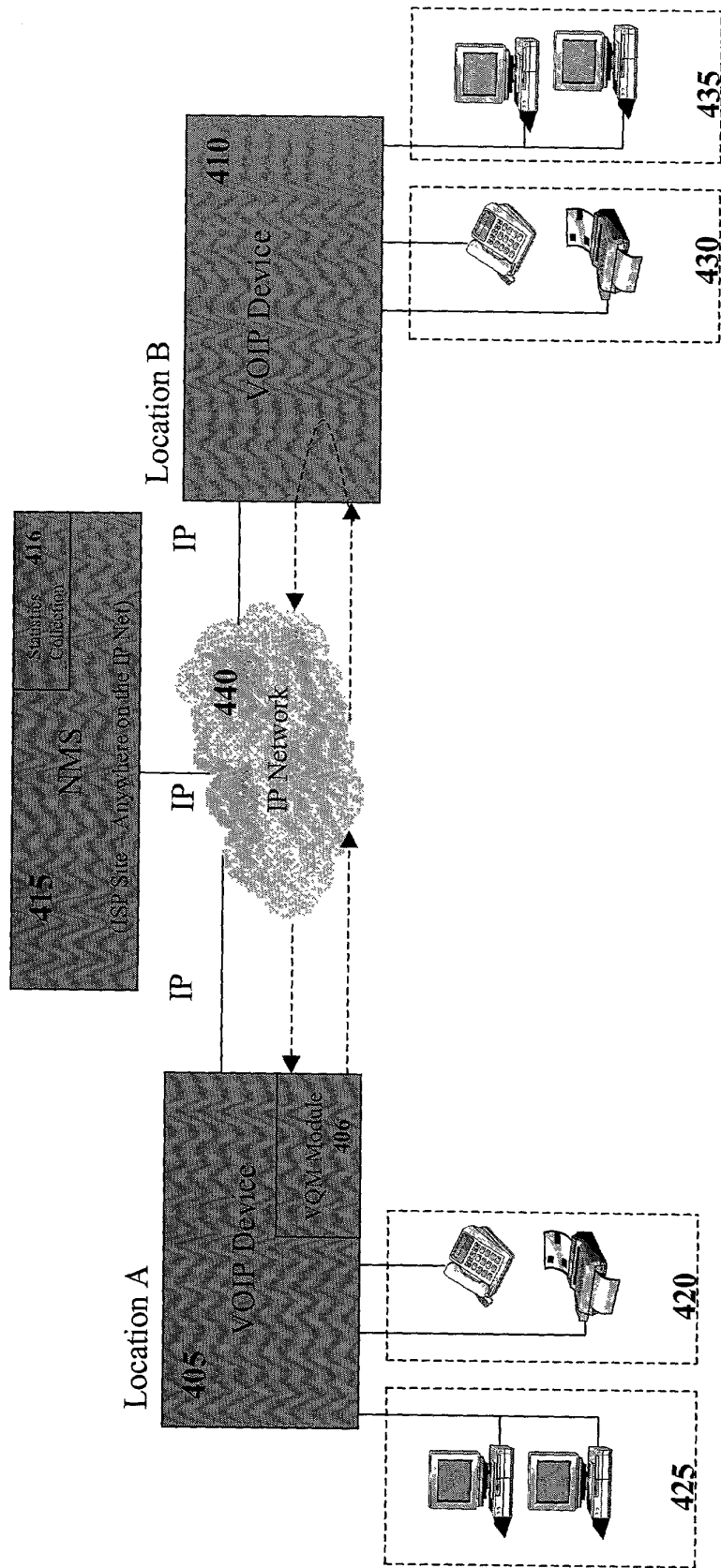


Fig. 2a : Voice Quality Measurement According to the Invention



Reference signal traveling the net

Fig. 2b : Voice Quality Measurement with Loopback According to the Invention

FIG. 2c is a block diagram of a typical voice over IP device 205'.

210' 205'

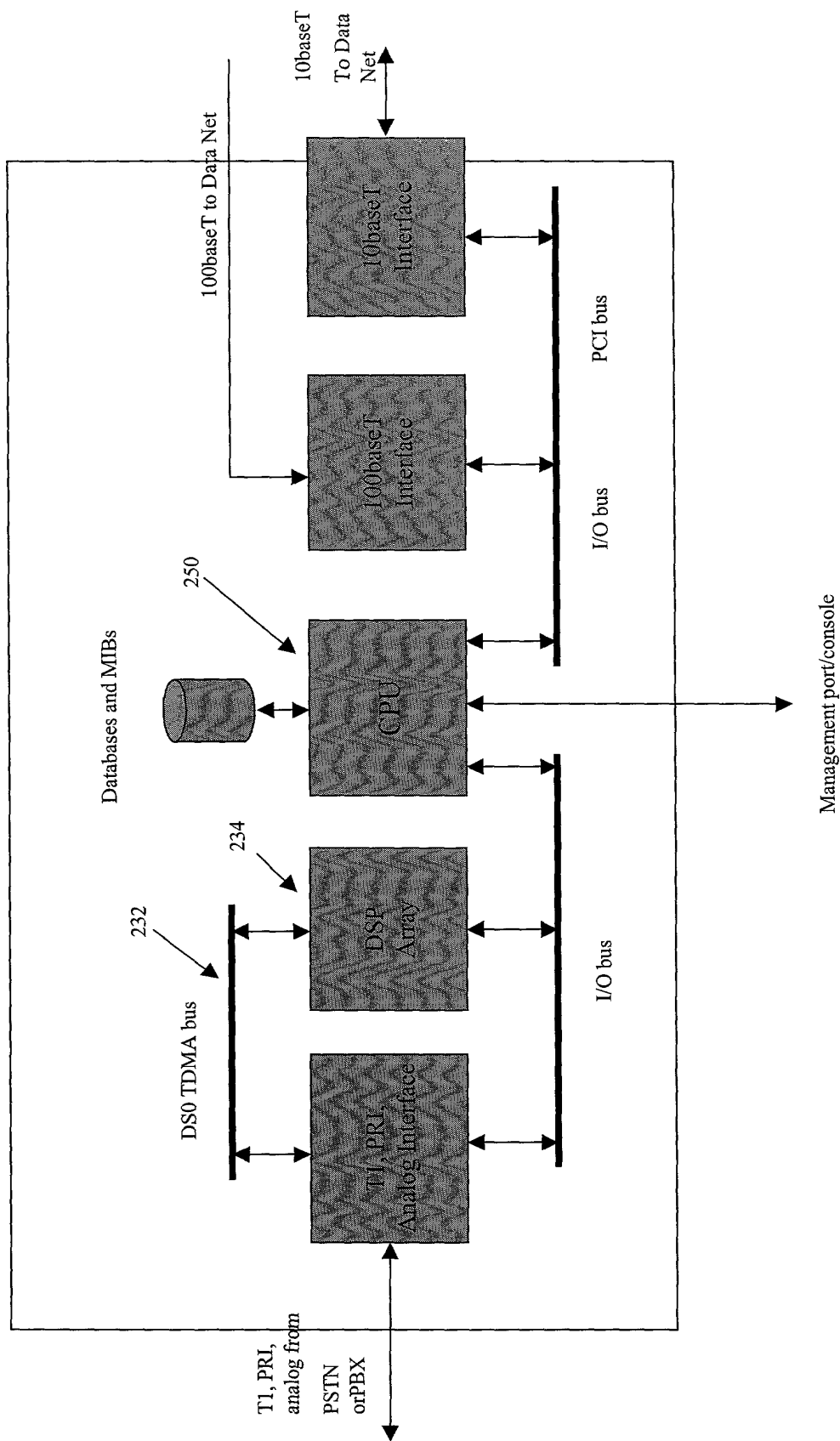


Fig. 2c Typical voice over IP device

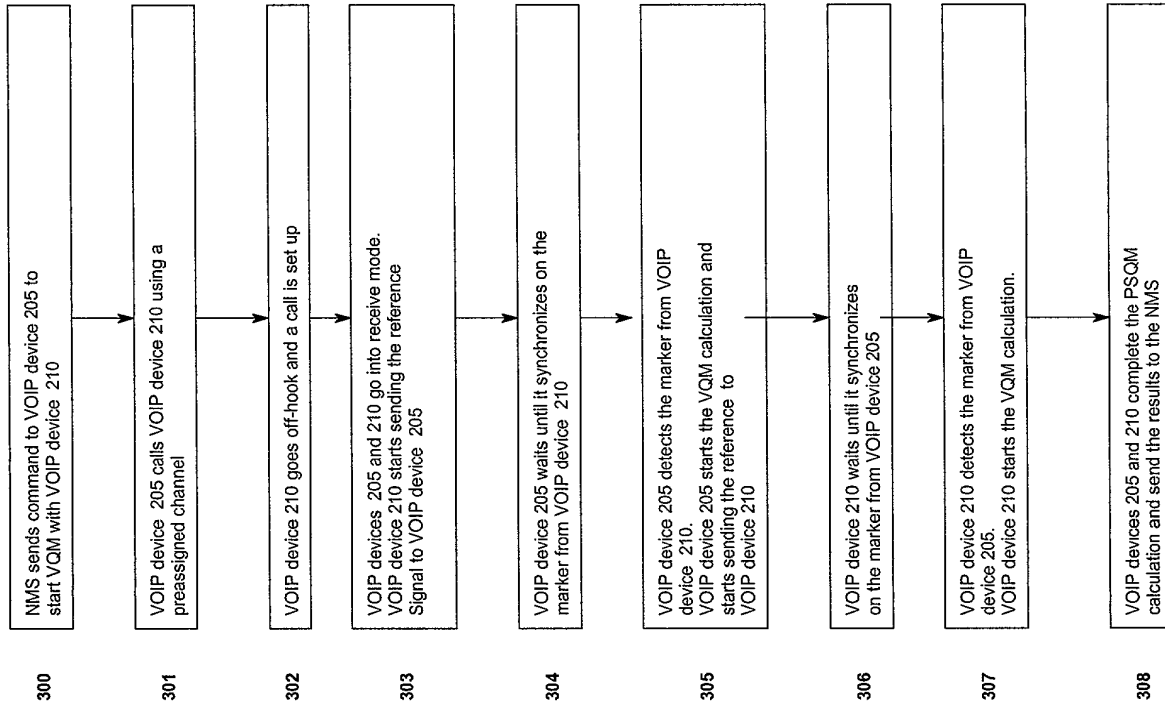


Fig. 3: Generation of Voice Quality Measurement

Figure 4a . Chirp Signal used as marker for Synchronization

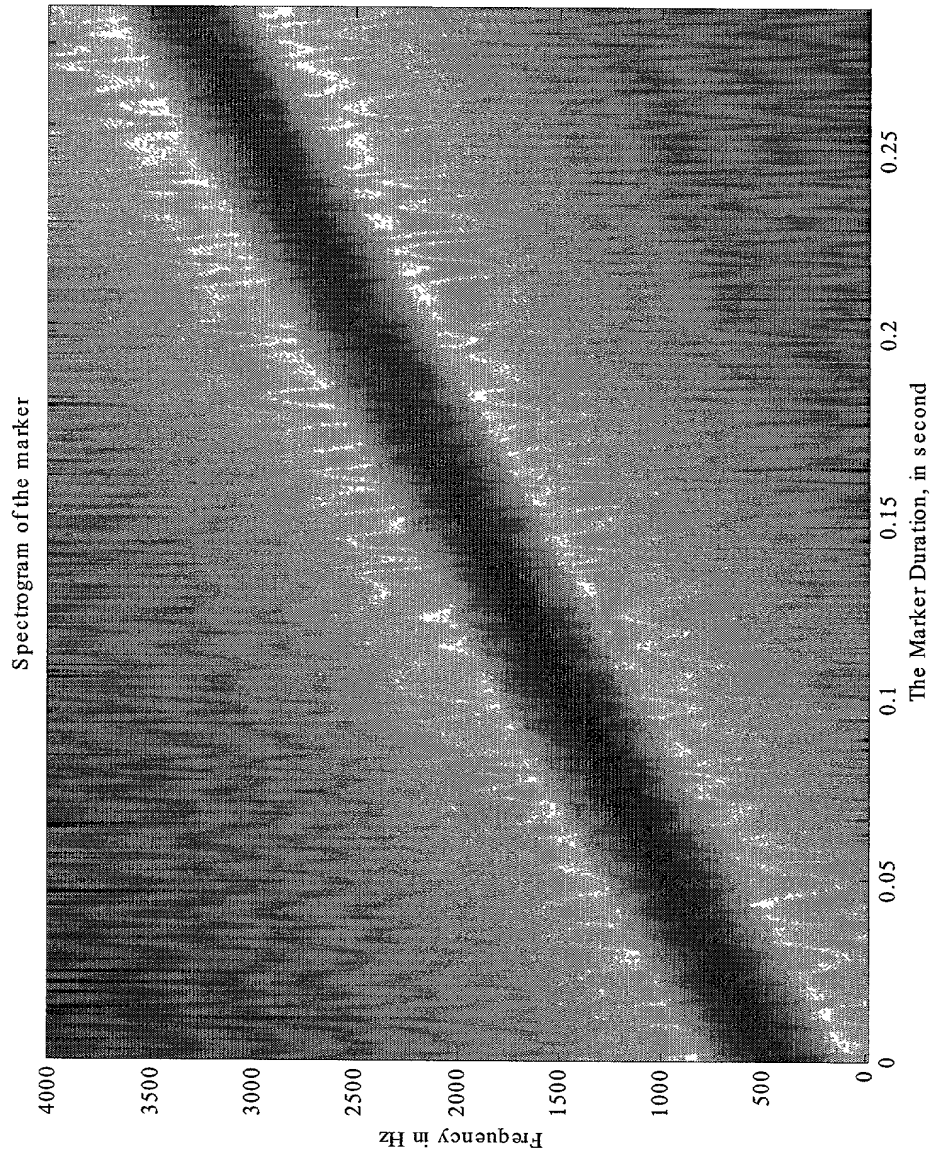


Fig. 4b. illustrates the marker used for synchronization and its relative position to the transmitted signal

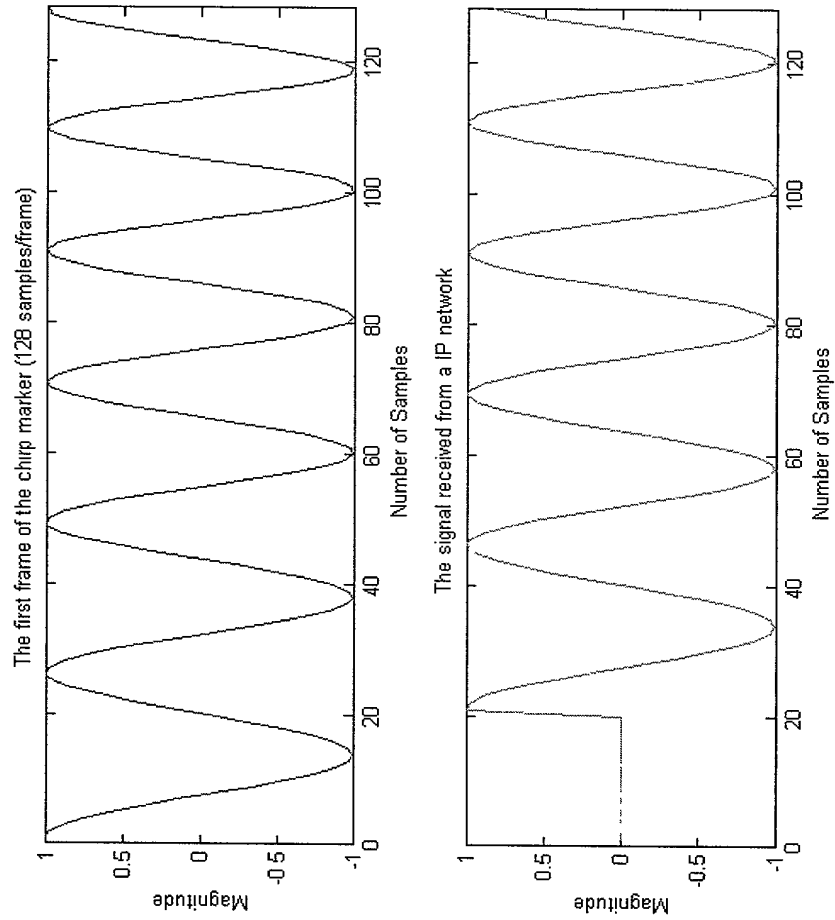
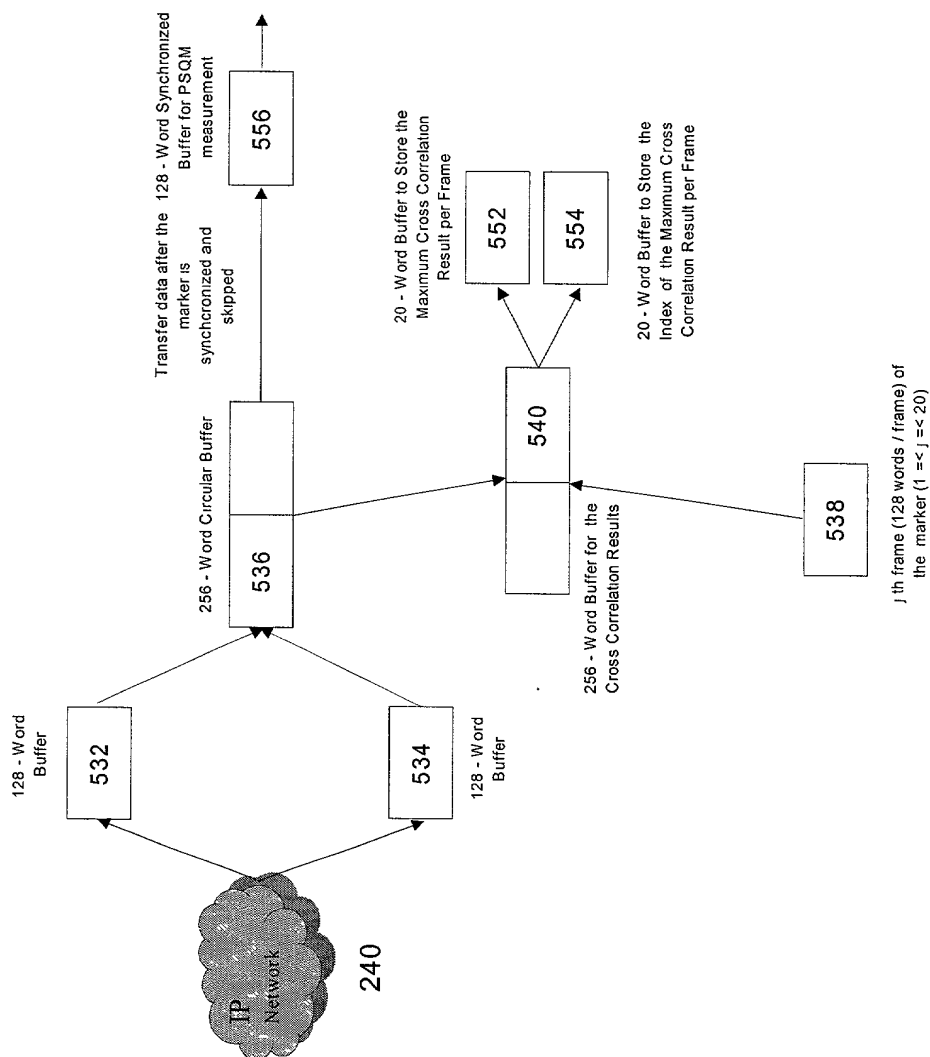


Fig. 5. illustrates the buffers involved in the process of estimating the Delay adjustment



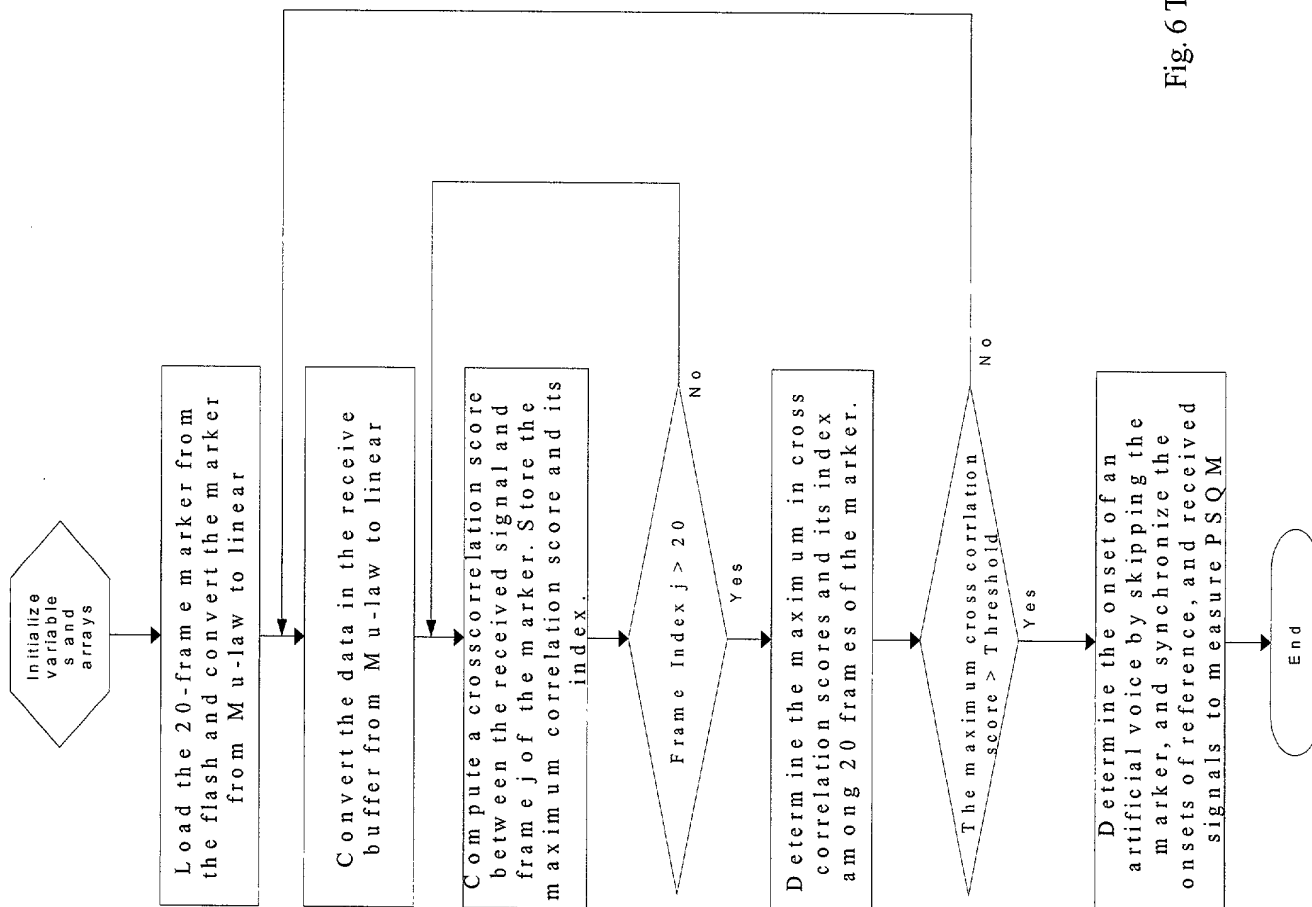


Fig. 6 Time Alignment Flowchart

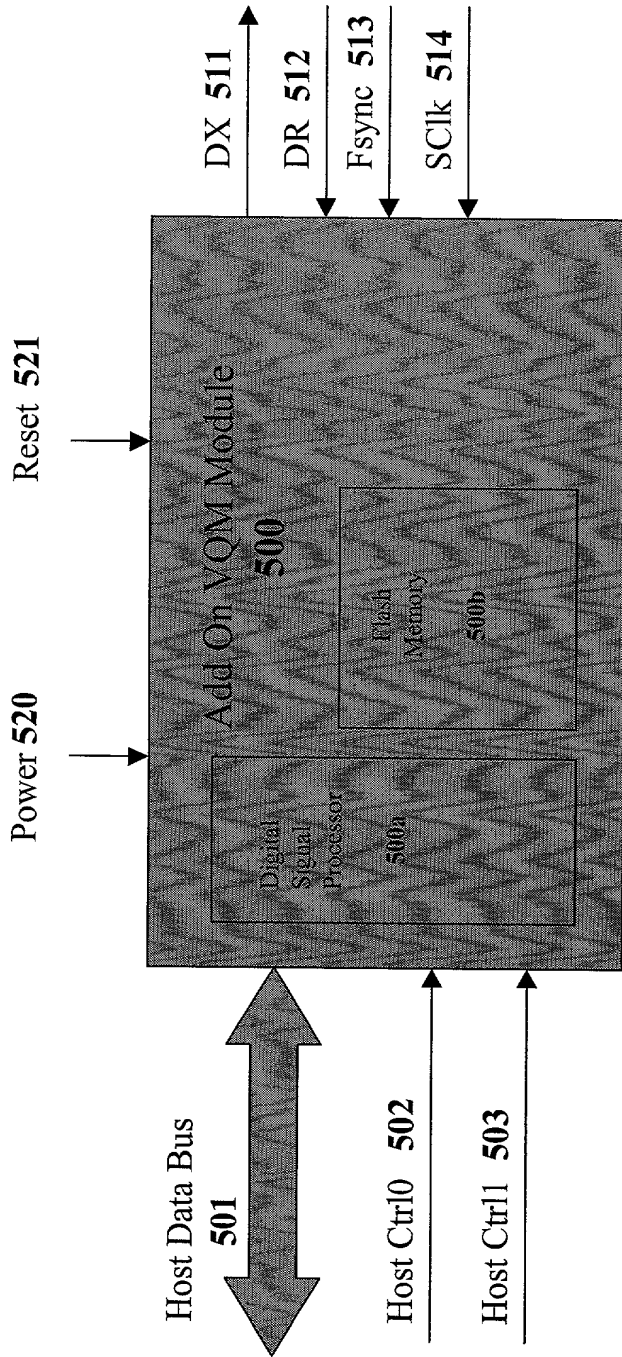


Fig. 7: Add-On Voice Quality Measurement Module According to the invention